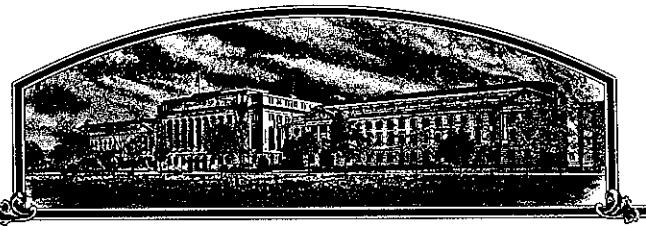
No. 8600101



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A0949'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D. C. *this* 31st *day of* December *in the year of our Lord one thousand nine hundred and* eighty-six.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Richard E. Lyng
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)
ASGROW SEED COMPANY

2. TEMPORARY DESIGNATION

3. VARIETY NAME
A0949

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
9620-190-25
Gull Road, Bldg. 190
Kalamazoo, MI 49001

5. PHONE *(Include area code)*
616-385-6605

FOR OFFICIAL USE ONLY
PVPO NUMBER
8600101

6. GENUS AND SPECIES NAME
Glycine max

7. FAMILY NAME *(Botanical)*
Leguminosae

FILING
DATE March 27, 1986
TIME 10:00 ☑ A.M. ☐ P.M.

8. KIND NAME
Soybean

9. DATE OF DETERMINATION
September, 1982

FEES RECEIVED
AMOUNT FOR FILING
$ 1800.00
DATE March 27, 1986
AMOUNT FOR CERTIFICATE
$ 200.00
DATE November 3, 1986

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

12. DATE OF INCORPORATION
March 22, 1968

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
John A. Batcha 9620-190-25
Asgrow Seed Co.
Gull Road, Bldg. 190
Kalamazoo, MI 49001
PHONE *(Include area code)*: 616-385-6605

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED
- a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- b. ☒ Exhibit B, Novelty Statement.
- c. ☒ Exhibit C, Objective Description of Variety *(Request form from Plant Variety Protection Office.)*
- d. ☐ Exhibit D, Additional Description of Variety.
- e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* ☐ Yes *(If "Yes," answer items 16 and 17 below)* ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ Yes ☐ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ Yes *(If "Yes," give date)*
☒ No

19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☐ Yes *(If "Yes," give names of countries and dates)*
☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT	DATE
John A. Batcha	March 21, 1986
SIGNATURE OF APPLICANT	DATE

EXHIBIT A

Origin and Breeding History of A0949

1979	The cross between two public varieties, Vickery*Evans, was made the summer of 1979 in Ontario.
1980	The F_1 generation was grown in Ontario.
1981	The F_2 generation was grown in Ontario.
1981-82	The F_3 generation was grown in a winter nursery in Belize, Central America, and 150 F_3 plants were selected from the bulk population and threshed individually.
1982	One hundred thirty-nine F_3-derived progeny rows in the F_4 generation were grown at Georgetown, Ontario. In September, 1982, progeny row 79015-W82-524 from the cross of Vickery* Evans was selected and harvested in bulk. The seeds were checked and verified for uniform seed coat luster and hilum color. It was in September, 1982, that 79015-W82-524 was determined to be a stable and unique line.
1983	79015-W82-524 was entered in the Preliminary yield test, 83P055, Entry 24, which was grown at Wallaceburg, Ontario. It produced uniform stands and was selected for its high yield and Group 0 maturity.
1984	79015-W82-524 was entered in the Strain S051 yield test, Entry 27, which was grown at 4 location in Minnesota. One hundred forty F_6 plants were pulled in October, 1984, at Blomkest, Minnesota, from 79015-W82-524 (84S051-27). The plants were threshed individually and all uniform plants with grey pubescence, brown pods, and seed with dull seed coats and yellow hila were bulked to form 5 pounds of seed. This seed was increased two times during the winter in Puerto Rico. 79015-W82-524 was assigned the designation, X0949.
1985	X0949 was entered in the Variety V050 yield test, Entry 7, which was grown at 7 locations in Minnesota and Ontario. There were 378 fifty-pound units of cleaned seed produced on 9 acres at Redwood Falls, Minnesota, in 1985. X0949 was nominated for release and full production and assigned the designation, A0949.

Trial evaluations in 1984 and 1985 indicate that A0949 is uniform and stable. As with other soybean varieties, variants can occur for almost any characteristic during the course of repeated sexual production.

Asgrow Seed Company
PVP Application A0949 Soybean
March, 1986

EXHIBIT B

Novelty Statement Concerning A0949 Soybean

To our knowledge the soybean varieties that most closely resemble A0949 are Simpson, Dawson and Evans. Characteristics which differentiate A0949, but are not necessarily restricted to the following:

1. Flower Color:

   A0949 = White
   Simpson = Purple
   Dawson = Purple
   Evans = White

2. Hilum Color:

   A0949 = Yellow
   Simpson = Buff
   Dawson = Yellow
   Evans = Yellow

3. Reactions to Powdery Mildew (Microsphaera diffusa):

   A0949 = Resistant
   Simpson = Susceptible
   Dawson = Susceptible
   Evans = Resistant

4. Reactions to Races of Phytophthora megasperma f. sp. glycinea:

	RACE							
	1	2	3	4	5	7	8	9
A0949 =	R	R	R	S	S	R	R	R
Simpson =	R	R	S	S	S	S	S	S
Dawson =	R	R	S	S	S	S	S	S
Evans =	R	R	S	S	S	S	S	S

   R = Resistant
   S = Susceptible

5. Number of days maturity:

   A0949 = 120
   Simpson = 120
   Dawson = 118
   Evans = 117

   LSD (.05) = 0.7

A0949 is a late Group 0 maturity variety that has higher yields than Simpson, Dawson or Evans.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
ASGROW SEED COMPANY		A0949

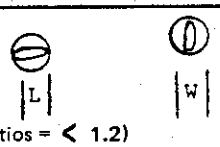
ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
9620-190-25
Gull Road, Bldg. 190
Kalamazoo, MI 49001

FOR OFFICIAL USE ONLY
PVPO NUMBER
8600101

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]).

1. SEED SHAPE:

[2]



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

2. SEED COAT COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[1] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

4. SEED SIZE: (Mature Seed)

[2][0] Grams per 100 seeds

5. HILUM COLOR: (Mature Seed)

[2] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)* _____

6. COTYLEDON COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green

7. SEED PROTEIN PEROXIDASE ACTIVITY:

[2] 1 = Low 2 = High

8. SEED PROTEIN ELECTROPHORETIC BAND:

[2] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

9. HYPOCOTYL COLOR:

[1] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

10. LEAFLET SHAPE:

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* _____

8600101

11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17')
3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[2] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton')
3 = Dark Green ('Gnome'; 'Tracy')

13. FLOWER COLOR:

[1] 1 = White 2 = Purple 3 = White with purple throat

14. POD COLOR:

[2] 1 = Tan 2 = Brown 3 = Black

15. PLANT PUBESCENCE COLOR:

[1] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[2] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton')
3 = Bushy ('Gnome'; 'Govan')

17. PLANT HABIT:

[3] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will')
3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

18. MATURITY GROUP:

[0][2] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V
9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

[0] Bacterial Pustule *(Xanthomonas phaseoli* var. *sojensis)*

[0] Bacterial Blight *(Pseudomonas glycinea)*

[0] Wildfire *(Pseudomonas tabaci)*

FUNGAL DISEASES:

[0] Brown Spot *(Septoria glycines)*

Frogeye Leaf Spot *(Cercospora sojina)*

[0] Race 1 [ ] Race 2 [ ] Race 3 [ ] Race 4 [ ] Race 5 [ ] Other *(Specify)* _____

[0] Target Spot *(Corynespora cassiicola)*

[0] Downy Mildew *(Peronospora trifoliorum* var. *manshurica)*

[2] Powdery Mildew *(Microsphaera diffusa)*

[1] Brown Stem Rot *(Cephalosporium gregatum)*

[0] Stem Canker *(Diaporthe phaseolorum* var. *caulivora)*

5

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

8600101

FUNGAL DISEASES: (Continued)

[0] Pod and Stem Blight *(Diaporthe phaseolorum* var; *sojae)*

[0] Purple Seed Stain *(Cercospora kikuchii)*

[0] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma* var. *sojae)*

[2] Race 1 [2] Race 2 [2] Race 3 [1] Race 4 [1] Race 5 [0] Race 6 [2] Race 7

[2] Race 8 [2] Race 9 [ ] Other *(Specify)* _____

VIRAL DISEASES:

[0] Bud Blight (Tobacco Ringspot Virus)

[0] Yellow Mosaic (Bean Yellow Mosaic Virus)

[0] Cowpea Mosaic (Cowpea Chlorotic Virus)

[0] Pod Mottle (Bean Pod Mottle Virus)

[0] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

[0] Race 1 [ ] Race 2 [ ] Race 3 [ ] Race 4 [ ] Other *(Specify)* _____

[0] Lance Nematode *(Hoplolaimus Colombus)*

[0] Southern Root Knot Nematode *(Meloidogyne incognita)*

[0] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[0] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[0] Reniform Nematode *(Rotylenchulus reniformis)*

[0] OTHER DISEASE NOT ON FORM *(Specify):* _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[1] Iron Chlorosis on Calcareous Soil

[ ] Other *(Specify)* _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[0] Mexican Bean Beetle *(Epilachna varivestis)*

[0] Potato Leaf Hopper *(Empoasca fabae)*

[ ] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Evans	Seed Coat Luster	Evans
Leaf Shape	Evans	Seed Size	Evans
Leaf Color	Evans	Seed Shape	Evans
Leaf Size	Evans	Seedling Pigmentation	Evans
			6

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
A0949 Submitted	120	1.8	89	72	118	40.7	20.0	20.6	
Evans Name of Similar Variety	117	1.7	88	68	114	39.7	20.6	19.0	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

EXHIBIT E

Statement of the Basis of Applicant's Ownership

A0949 was selected, purified and increased by plant breeders of Asgrow Seed Company. Asgrow Seed Company is the sole owner and holds all rights to A0949.